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Basic Science Question:

What are crowns and when are they indicated?

Report:

Dental crowns are a common restoration that cements a cap on top of a prepared damaged or decayed tooth. Crowns are placed to help improve the strength and aesthetic of the tooth structure. While crowns are not technically a permanent restoration due to the wear and tear that teeth experience over time, they are placed to extend the durability and longevity of the tooth at risk. A successfully placed crown could last for several decades. Not only do crowns aid in restoring a specific tooth, but also preserving the overall oral health of the patient. Modern crowns are often made of all-ceramic (Porcelain) material or metal-ceramic material. There are several composite materials that share similar physical properties, however crowns are indicated in scenarios in which direct materials would not be as sufficient. Crowns are composed of indirect materials that require a dental laboratory and often at least two separate visits to a dental office to finish the restoration.

There are several instances in which single-unit crowns may be indicated. Whether the patient shows signs of lesions, fractures, restorations, or other decay, crowns can be used to restore the tooth. A very common indication for a crown is to replace older restorations that are fairly large in size. Occasionally the original restoration will not hold, and the patient will break off a cusp of the tooth. Rather than repeating the unsuccessful restoration, a full crown would be a better option to protect the remaining weak tooth structure. A crown is also usually recommended if a cusp breaks that has not had any restorative work done prior. There is often debate and discussion among different dentists regarding the size of restoration required for a crown. Additional treatment may need to take place before the cementation of a final crown depending on the severity of the break. An additional situation in which a crown may be indicated is following endodontic treatment. Many patients that undergo endodontic treatment without any previous restorations on the tooth may not require a crown. However, a patient with a history of restorations on a tooth with endodontic treatment should be restored with a crown to prevent any further treatment. Lastly, fractured or cracked teeth are a high indication that a crown is necessary. Treating fractured teeth with a crown can prevent additional damage to the tooth. Overall, there are multiple scenarios that require a crown, which is why it is such a common restorative procedure in dentistry.

References:

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